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THIS IS UNEVALUATED INFORMATION

25X1 1. During a training course which was held from 15 through 17 November 1953 and was organized by the Aktion Junge Intelligenz 1/ at Sachsenwerk Radeberg, the chief of development of the enterprise, Engineer Gerhard Megla, lectured on "Introduction into Decimeter Wave Technology" to a number of young technicians from all radio and telecommunication enterprises in East Germany. In his lecture Megla stressed the following points as of particular importance for the present East German development of centimeter wave technology:

a. Improving and equipping the centimeter wave line between Berlin and Leipzig. The line, which passes through relay stations at Mueggelberg, Stuelpe and Oschatz is for television and telecommunications (Fernfunkverbindung) in the 22-centimeter wave range. All stations are equipped with the stationary RVG transmission and reception set manufactured at Sachsenwerk Radeberg. The line is in operation, although not yet regularly. Improvement of the line and its equipment was designated by Megla as one of the foremost immediate technical tasks.

b. In connection with centimeter line technology, Megla declared that one of the problems recently tackled is the application of the principles of wave reflection. This application, now under study in East Germany, is to furnish a cheap and easy means for detouring obstacles in the path of the centimeter line, such as hills. Experiments have been made with the aid of two metallic mirrors arranged in such a way as to make it possible to detour an obstacle horizontally: the transmitter waves are beamed upon a mirror which reflects them upon another mirror, which in turn reflects them in the

direction of the receiver. The obstacle between the two mirrors which would be in the path of the direct line cannot obstruct the path of the reflected beam between the two mirrors because of their location and angular arrangements. Similar experiments have been carried out with reflecting mirrors placed in such a way as to permit a wave beam to pass over a hill vertically. The transmitter beam is directed upon a mirror which reflects it onto another mirror placed vertically over the first one in such a position as to redirect the beam in the direction of the receiver, thus "jumping" the hill. For the better study of these vertical reflection arrangements, Megla constructed an experimental tower with a number of metallic mirrors in a slanted position and placed parallel one above the other. This tower is located near Dresden. As Megla pointed out, the technical problems involved do not so much concern the application of simple reflection principles - similar to those well known in optics - as such questions as energy loss, influence of climatic factors, etc.

2. Megla also told his audience that he is now engaged in work on telecommunication technology in the range between 10 and 40 centimeters, which is of particular importance since neither wave guides nor co-axial conduct lines can be used in this sector of the wave spectrum. In his experiments Megla also uses the reflection principle. The transmitter is connected with a hollow conductor which ends in a horn antenna (Hornstrahler). The horn antenna directs the transmissions on a mirror placed on a tower located at some distance from the transmitter. The mirror is arranged in such a way that it reflects the transmissions in the desired direction. According to Megla, this arrangement has the following advantages:

a. It makes superfluous the power line from the transmitter to the antenna.

b. It thereby avoids power losses occurring on this line.

c. It constitutes an economy measure, since it makes superfluous the maintenance of the power line.

25X1

Comment The Aktion Junge Intelligenz was founded in the summer of 1952 for the purpose of giving training opportunities to all young technicians in East German technical enterprises. In most of the plants under the Ministries for Post and Telecommunications and Heavy Machine Construction there are individual groups of the Aktion. As a rule, the groups convene once per month for technical lectures and discussions. On these occasions, political indoctrination is also provided through lectures such as "The Role of Young Technicians in Carrying Out Socialist Tasks." Since summer 1952 there have been four conventions of selected delegates of the individual groups in the radio and telecommunications industry, namely in Leipzig, Gera, Berlin and Radeberg.